GEORGIA LAKE STANDARDS: AN IMPLEMENTATION UPDATE

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LEGISLATION FOR LAKE QUALITY

In its 1990 legislative session, the Georgia General Assembly passed Senate Bill 714. This legislation amended the Georgia Water Quality Control Act so as to provide for water quality standards for publicly owned lakes greater than 1,000 acres. The standards to be set are intended to protect lake water quality so that it is suitable for swimming, fishing, and useable as a public drinking water source. The legislation requires the Board of Natural Resources to adopt lake specific criteria in the Rules and Regulations promulgated under the Georgia Water Quality Control Act. The standards are to be set for bacterial concentrations, dissolved oxygen, pH, total nitrogen, chlorophyll a, and total phosphorus loading. Also, nutrient standards are to be set for each major tributary for each lake. This paper describes the requirements of this legislation and the progress made thus far in its implementation.

Lakes Included in S.B. 714

At the moment, the Department of Natural Resources has identified fifteen lakes meeting the definition of publicly owned and having a normal pool level surface area of 1,000 or more acres (Table 1). At the present time, public ownership has been interpreted as a political subdivision or related public entity. As a result, lakes owned by Georgia Power Company are not being included in the standards setting process at this time. The following lakes are not included: Oconee (19,007 acres), Sinclair (15,335 acres), Harding (5,851 acres), Jackson (4,752 acres), Juliette (3,707 acres), Burton (2,775 acres), Oliver (2,150 acres), and Worth (1,400 acres).

Table 1. Publicly Owned Lakes Greater Than 1000 Acres

Lake Name	Surface Area (acres)	Lake Owner
*Allatoona	11,865	Corps of Engineers (COE)
Banks	3,100	U.S. Fish & Wildlife
*Blackshear	8,518	Crisp County Power Commission
Blue Ridge	3,219	Tennessee Valley Authority (TVA)
Carters	3,882	COE
Chatuge	7,153	TVA
Clarks Hill	69,776	COE
*W.F. George	45,219	COE
Hartwell	55,950	COE
*Lanier	38,038	COE
Nottely	4,181	TVA
Russell	26,650	COE
Seminole	37,515	COE
Tobesofkee	1,752	Bibb County
*West Point	29,911	COE

* Has EPA Clean Lakes Program funding

Lake Specific Criteria

The legislation specified that, at a minimum, six numeric criteria would be adopted for each lake. These are:

- Fecal coliform bacteria
- Dissolved oxygen in the epilimnion during periods of thermal stratification
- pH (maximum and minimum)
- Total nitrogen
- Chlorophyll a for designated areas to protect a specific use
- Total phosphorus loading in pounds/acre foot per year

Of these six criteria, current standards already in use for the various water use classifications are probably adequate for the fecal coliform bacteria, dissolved oxygen, and pH criteria. The remaining three criteria will require appropriate data not now available and decisions regarding the desired management of the lake prior to adoption.

Chlorophyll a. For the chlorophyll a criterion, one or more critical areas of the lake will have to be specified.

These may include water intakes, swimming areas, or other areas considered important to overall lake protection. At the moment, most of the chlorophyll a data collected by the state has been in the dam forebay of each of these lakes. This data may have little bearing on the conditions experienced at other critical areas of the lake.

Nutrients. The nitrogen and phosphorus criteria will likely depend on application of a lake eutrophication model. Of particular concern is the phosphorus loading criterion which will require considerable data to develop as well as to ascertain compliance once the criterion is set.

The legislation also directed that nutrient limits be set for major tributary streams including streams with permitted discharges. Although specific nutrients were not named in the bill, this has been interpreted to mean that at least phosphorus criteria and possibly nitrogen criteria will have to be adopted.

LAKE STUDIES

The legislation mandated that provided funds were available from any source, there shall be comprehensive studies of each lake prior to adopting the lake specific water quality standards. The Department of Natural Resources has considered this language to mean that a comprehensive study of up to two years in length is required for each lake. It might be argued from the language of the bill that if funds are not available, these studies are not needed prior to setting the standards.

The lakes specifically mentioned as those to be studied first were Lakes Lanier, West Point, and Walter F. George (Eufaula). Despite the fact that the General Assembly did not appropriate funds for any comprehensive studies, the Department of Natural Resources has been able to begin them through funding grants received from the U.S. Environmental Protection Agency. In addition to these three lakes, EPA Clean Lakes Phase I Grants were received for studies of Lake Blackshear on the Flint River and Lake Allatoona on the Etowah River.

The EPA funding grants are termed diagnostic-feasibility studies. The diagnostic portion of the studies includes the requirement of at least one year of limnological data for the lake. A funding limit of $100,000 and other sampling requirements of these grants leave little opportunity to design lake studies tailored to individual lake problems. For all of the studies started except for Lake Blackshear, this has been somewhat blunted by the availability of subsequent funding. For Lakes W.F. George and West Point, additional Clean Lakes funding has been awarded to the State of Alabama to continue the studies. Lakes Lanier and Allatoona were recipients of a special Clean Lakes appropriation of $500,000. These latter two studies will be initiated when matching funds become available.

The feasibility portion of the Clean Lakes studies is designed to recommend feasible remediation options to the problems brought to light by the diagnostic portion of the study. These recommendations can include ways in which the lake is managed, in-lake remedial actions, as well as reducing point and non-point pollution in the watershed.

Sampling for the Lake West Point study is completed. For Lakes Lanier and W.F. George, the sampling for the initial Clean Lakes Grants has also been completed. Sampling of Lakes Allatoona and Blackshear are currently ongoing. The final reports from these studies will be used as with other available data in the standards setting process.

PUBLIC PARTICIPATION

S.B. 714 contains strong public participation provisions. First of all, the comprehensive study components and procedures are to be established after consultation with local officials and affected organizations. Secondly, once the draft recommendations for water quality standards have been prepared, they are to be made available to the public. The recommended standards are to be published as a public notice followed by a comment period and public hearing at a location in the vicinity of the lake.

Comments received during the comment periods before and immediately after the public hearing, and those received at the public hearing, will be utilized to develop the final standards recommendations to the Board of Natural Resources for consideration and approval. The time between the completion of the lake study and the adoption of the final recommendations is mandated not to take more than one year.

CURRENT STATUS

The process of setting the standards for the lakes with ongoing or completed Clean Lakes studies has been delayed by the Comprehensive Studies of the Apalachicola/Flint/ Chattahoochee (AFC) and the Alabama-/Coosa/Tallapoosa (ACT) River Basins. The Comprehensive Studies include modeling the Chattahoochee River downstream of Atlanta and West Point Lake. It is the Department's conclusion that these studies are of such importance that consideration of adopting lake standards must be held in abeyance until these studies are completed. It is estimated that the standards setting process will be initiated some time in 1996.

At the present time, comprehensive studies of additional lakes listed in Table 1 are not being planned. Since funding of the federal Clean Lakes Program was cut, monies are not available to start additional Clean Lakes Phase I studies. Additional funding from the General Assembly is also not anticipated.